SECRET

AGENDA

USER PRODUCTIVITY AND SUPPORT

Monday, 30 November 1981

Room 2D-47

0900	Welcome/Opening Remarks Working Group Chairman, [redacted] NPIC	25X1
0915	Overview of Strategic Planning Effort - [redacted]	25X1
0930	Office Automation in the Agency SAFE Briefing	
1015	Break	
1030	Briefing - Hqs Automation	
1100	CRAFT	
1200	Lunch	
1300	Training Issues in the 1985-1990 Period - [redacted] (EXO/OTE)	25X1
1345	ODP - [redacted] will address ODP Support to Users	25X1
1430	Break	
1445	General discussion of IHSA issue paper	
1630	Adjourn	

SECRET

WORKING PAPER

PRODUCTIVITY AND USER SUPPORT

I. OVERVIEW

1. Background

The capabilities for automation of tasks and functions now provided by electronic systems are amazing, particularly in reference to what could be done just a few years ago. The primary benefit of this automation is improved productivity (see Diagram #1), but there are others as well. With automated systems, higer quality information products are achievable, and with greater assurance. Also, functions are now routinely being performed which were impractical before because of their elaborateness or complexity. The bottom line is a very high productivity payoff for the investment. The consequence is a major surge in the acquisition and application of such systems throughout the business and government environment. The Agency is a part of the surge.

Our total annual rental cost of word processing equipment is now [redacted] and we have undertaken project SAFE to provide analyst support. We have also developed and acquired numerous packages to serve users of our central data processing systems. When SAFE is fully implemented, and we have made standard word processing equipment available which can interface with our central systems, the Agency will be heavily automated. 25X1

Making these tools available is only part of what is required to improve productivity. The other parts relate to the support of the users in utilization of this equipment. We need to keep in mind that we are undergoing a technological revolution. We are asking our people to develop totally new skills to take advantage of the capabilites of these systems. For some it is intimidating, for many it involves a whole different way of looking at their work. Such first-time users need effective training and support.

June 26, 1981
pg 8

TYPEWORLD

Kurzweil now reads, enters information 25 times faster than human keyboard operators

Cambridge, MA — Progress towards the computerized office has been given a boost by a machine which competes with the human eye and brain in reading capabilities. Kurzweil Computer Products, a Xerox company, announced that the Kurzweil Data Entry Machine (KDEM) can now convert ordinary printed material to digital form on an average ten to fifteen, and up to twenty-five, times faster than a human operator typing at a keyboard.

This represents a 300% increase in speed for the KDEM, which was introduced two and a half years ago as the first system able to recognize and convert to digital signals all of the two hundred-plus typefaces and typefonts in common use.

per typist in 1974 was 143. Today, the average WP operator produces 1,062 pages per month — or an increase of 643%.

Total savings using the word processing system is difficult to determine (that is, what is the value to executives for fast revisions, quick turnaround time or sending documents in seconds to and from other locations).

10 *JANUARY 30, 1981*

IBM's voice activated typewriter expected in the 1980's

Norwalk, CT — The most dramatic announcement of the entire 1980's in office products may well be IBM's voice activated typewriter, says a new report by International Resource Development Inc., a market research and consulting firm. The new typewriter, which is presently in IBM's research and development laboratories, could settle the issue of whether or not executives will need to type in the office of the future.

Graphics Taking Off

In the past 15 years, the price of a color plotter that can produce multicolor vugraphs and paper charts has dropped from more than $40,000 to less than $4,000. The new lower-cost devices can produce 10 to 20 charts in the same hour the old plotters needed to make just two to four charts.

TELECONFERENCING SAVINGS

IN MAY, round-trip cost, Cleveland-Los Angeles: $602.00 via American Airlines day coach. Hotel, corporate rate, $60 nightly. Food, at least $40 daily for decent restaurants. Multiply those figures by a number of conferees and you quickly begin to wonder about alternative ways of dramatizing your newest marketing developments.

Teleconferencing technology now permits participation of people in as many as 50 locations.

In addition to Darome services, the satellite carriers offer full video teleconferencing at much higher cost. For instance, one company beamed a national sales meeting to 12 major cities at a cost of $300,000. An actual meeting would have cost $600,000, a substantial increase. ❑

Triple your programmer's productivity.

	Executive	Manager	Professional
Electronic Mail	High	High	Medium
Information Management	Low	Medium	High
Decision Support Systems	High	Medium	Low
Document Creation	Low	Medium	High
Personal Office Aids	High	Medium	Medium
Project Management Aids	Low	High	Low
Forms and Transaction Processing	Low	Low	Low
Automated Procedures	Low	Low	Medium

Impact of Automated Office System Applications on Principals

It is extremely important to understand which applications will have the highest "payoff" for a given type of principal. The table shows, for various automated office system application areas, the typical degree of impact (high, medium, low) for principals at three generic levels (executive, manager and professional). The impacts of office automation technology on the productivity of typists or clerks can be ascertained. Productivity gains for typists ranging from 200% to 400% have been reported and total administrative costs have been reduced as much as 15% as a direct result of office automation technology.

It is much more difficult to assess the impact of an automated office system on the productivity of principals because many of the benefits are intangible and are due to behavioral effects. In fact, there is no currently accepted theory and methodology for evaluating the impact of an automated office system on the overall productivity of an organization in general and principal in particular.

Information systems have secondary effects that can greatly impact work habits and patterns of communication. These effects can be hard to relate back to the system that caused them. The benefits should show up in the form of improved bottom line performance.

Abraham is a manager for the Los Angeles office of Price Waterhouse and Co's Management Advisory Services.

DIAGRAM 1. Productivity in the News

1. Background (continued)

The need for support tools goes well beyond the user introduction process, however. Such tools have a tremendous impact on the efficiency with which IHSs are used. The first generation systems were not very "user friendly." The consequence of not being user friendly transcends requiring more elaborate training; it means also an awkward or inefficient implementation compared to what can be done with user friendly systems.

The nexus of IHS facilities, functionalities, and system characteristics which will increase our productivity in a cost effective manner, is the concern of this paper. Such elements as user friendly systems, computer aided instruction (CAI), program generators, common data base query languages, higher order languages, and artificial intelligence (AI) offer some attractive productivity opportunities. Achieving the potential, however, requires judicious application. Given the tightly constrained budget environment we face, we need to see a clear and demonstrable payoff before investing significantly in a particular tool. In some instances, this necessity for wise investment will point towards prototyping. Prototyping is also frequently indicated in developing the appropriate translation of a general functionality into our environment, resolving orgnaizational stucture questions as well as the best specific implementation of the functionality.

2. Scope

The objective of this point paper is to focus on user productivity and support as they relate to the Agency's Information Handling Systems. From the broad definition of productivity given below and applied to information systems, it would be quite easy to encompass in this paper almost any subject matter that we would care to include.

> To be productive, one must be both efficient ("acting in such a way as to avoid loss or waste of energy in effecting, producing or functioning") and effectual ("accomplishing the desired result or the fulfillment of a purpose or intent especially as viewed after the event").

2. SCOPE (continued)

It is therefore essential that the subject matter for this paper be properly focused. The basic theme of this paper is simply stated: What are the "tools and services" in the 1985 - 89 time frame that will be needed to improve the productivity and provide the necessary support to IHS users in the Agency? Issues such as acquistion, integration and interoperability of such tools are mentioned for completeness in the section, Top Level Issues, but they are to be addressed by the "providers" in Phase II of the development of the Agency's strategic plan and should not distract us from dealing with the specific questions addressed in the following sections. Moreover, it's important that the time frame that we are examining, 1985 - 1989, be emphasized, as our concern here is not with finding solutions with today's productivity and user support problems, but with adequately defining the requirements for these "tools" in the future.

3. Approach

This paper has two remaining sections:

-- Top Level Issues dealing with User Production and User Support

-- Specific Productivity Tools and User Support Services

It is intended that these sections will provide background information as well as focus on the issues pertinent to the Agency. This paper will be used to elicit the views from the members of Working Group IV.

Within each of the following sections, are relatively specific questions. To the extent possible, the questions are intended to quantify specific user needs in dealing with the issues stated. It should be emphasized that the need assessment is not a commitment and does not quarantee a capability. The goals and objectives we have to establish will be used as general criteria toward which the Agency can proceed.

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